

**THERMALLY COMPENSATED CURRENT SENSING OF INTRINSIC  
POWER CONVERTER ELEMENTS**

**Abstract of the Disclosure**

A DC-to-DC converter includes one or more power switches, a pulse width modulation circuit for generating control pulses for the power switches, and  
5 an output inductor connected to the power switches. A thermally compensated current sensor is connected to an intrinsic current sensing element exhibiting a temperature-based parameter non-linearity. The thermally compensated current sensor has a  
10 temperature coefficient that substantially matches a temperature coefficient of an intrinsic power converter element used to measure current flow, thus linearizing the current measurement. Also, a current feedback loop circuit cooperates with the pulse width  
15 modulation circuit to control the power switches responsive to the thermally compensated current sensor.